

#### Introduction

- Introduce yourself and your assistant.
- Present the lesson topic, explain the relevance of the lesson to the course, state the duration, and describe scheduled activities and method of evaluation.
- This lesson is very important because it tells the rescuers where the trapped victims are located so that they can begin extricating them.
- **FC 6-1** through **6-3**.
- Present lesson objectives. Ask a participant to read them aloud from the workbook.
- Ensure that the objectives are clear to all participants.
- Discuss disasters in which victims were rescued after being trapped in void spaces for extended periods. Review the case study in RM 6.

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Ask participants review to the Operations Phase as discussed in Lesson 2. Searching and Locating TR 6-1. Discuss definition of searching and locating. • Review importance of Operations Phase as discussed in Lesson 2. Review phases diagram on page WB 2-5. TR 6-2. • Explain Survival Rate chart. Composition of a Search Squad TR 6-3. Explain the structure of a CSSR Search Squad and the functions of the positions. TR 6-4. Discuss basic equipment needed for conducting a physical search.

- Continue discussion basic search equipment.
- Ask participants to contribute ideas regarding equipment. You may also have equipment present in the classroom for demonstration purposes.
- Allow time for questions and comments before moving to the next topic.
- Ask participants to close their workbooks.

### Steps for Search and Location

- Explain that the purpose of the following steps is to develop an orderly and systematic procedure for correctly conducting a search.
- Have FC 6-4 through 6-6 ready on the stand, but covered. Generate a discussion among participants to have them figure out the steps. Simulate an operation and help them to discover each step.

You may also cover each step on the flipcharts individually and remove the cover after each step has been mentioned.

- Once all steps have been stated, ask participants to open their workbooks.
- Go back to the first steps and begin discussing each one in detail. Instruct participants to begin taking notes.
- Remember that for Step 1, the data collection form will be discussed later.
- Steps 2 and 3 were already discussed in Lesson 2.

Rev. 20-Mar-2002

| Search and I | Location | Techniq | ues |
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| • | Step 4 can be illustrated using FC 6-8.  |   |
| • | Step 5 was already discussed in Lesson 4.  |   |
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| • | You may also refer to the CSSR Response diagram flipchart seen in Lesson 2 (FC 2-3). |   |
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| • | Review the remaining steps for search and location.                                  |   |
| • | When you reach Step 6, show <b>FC 6-7.</b>   |   |
| • | Ask participants to turn to page WB 6-9 in their workbooks.                          |   |
| • | Emphasise that in Step 7 the search area   |   |
|   | selected is based on an analysis of the information gathered.                        |   |
| • | Step 8 refers to the modality, type and  |   |
|   | pattern of search to be used.  |   |
| • | Refer participants back to Lesson 4 for marking system details.                      |   |
| • | For Step 10 emphasise that re-evaluating   |   |
|   | the results and the search plan is a continuous process that can stop or             |   |
|   | modify the search operation at any time.   |   |
| • | Explain that the details for Step 11 will be covered in a later lesson and is of     |   |
|   | extreme importance.  |   |
| • | In Step 12 the presence of victims is confirmed.                                     |   |
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### **Void Spaces**

- TR 6-5 and 6-6.
- Remind participants that victims trapped in void spaces represent only 15% of the total.
- TR 6-7.
- Give examples of void spaces that might be created in a collapse. Identify the locations most likely to contain live victims.
- Discuss V-shape and pancake collapses.

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- Discuss cantilever and lean-to collapses.
- Ask participants to review the four collapse patterns and their characteristics. This is a review of material from Lesson 3.
- Using the drawings on pages WB 6-6 and 6-7 to point out where void spaces might be created in each of the four collapse patterns.
- Point out that void spaces, and therefore survivors, are least likely in pancake collapses.
- TR 6-7.
- Discuss possible locations of void spaces.

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- The Site Sketch Diagram was explained earlier. Inform participants that the diagram will be used again later in an exercise in which they will need to draw on it.
- At this time, prepare to conduct an exercise to identify void spaces.
- Set up participants into five groups.
- Distribute among the groups two transparencies each (from among TR 6-7 to 6-16). Instruct participants that they need to identify portions of the structures pictured where there is potential for the formation of void spaces. Allow 10 minutes for the exercise.
- When they are finished, as one representative from each group to project their transparencies and to present their conclusions.
- Generate a discussion on findings and allow for comments from everyone.



### Search Modalities

- TR 6-18.
- Explain differences between hasty and extensive searches. Allow for discussion among participants.

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#### Search Methods

- TR 6-19.
- Explain the basics of the three types of search, beginning with **physical search**.
- Point out that **physical search** is the main type of search that will be discussed in this course, though the other two are very useful when the necessary equipment and resources are available.
- Discuss canine search.
- Comment on the rigorous training and resources required to conduct this search, and results that you are aware of during rescue operations.

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- Discuss technical search.
- Mention that modern technology has produced some very efficient equipment that unfortunately is extremely expensive. However, later in the lesson some suggestions are given in using ingenuity and creativity to create and improvise equipment locally at a reduced cost.
- Ask: Are the three search methods clear?
- Briefly discuss **visual search** instruments.

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• Briefly discuss electronic listening devices.

Hailing Method Procedure

- TR 6-20.
- Discuss hailing method and explain how it is part of the physical search. This will be discussed in greater detail later in the lesson.
- Begin discussing the steps for the procedure.

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- Continue discussing steps for the hailing method procedure.
- Explain diagram and pointing toward the source of the sound. Explain that everyone must have the same Site Sketch in their hands to ensure that triangulation is effective.
- Other ways of indicating a direction are to use the hands of the clock or geographical orientation.
- Use examples of the above to ensure that the participants are clear on using these references for direction.
- Emphasise the importance of the role of the search squad leader.

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### Physical Search Patterns

### Multiple Rooms

- Explain that several search patterns have been established that allow a given area to be covered with a low margin of error, such that if a victim is calling for help, the chances are high that he or she will be detected.
- This course describes the most widely used patterns. There may be several others and adaptations or combinations of these.
- TR 6-21 and 6-22.
- Explain and describe the **multiple room** and **line search** patterns.
- Remind participants to continue filling the blank spaces in their workbooks.

#### Line Search

• Complete the steps for the **line search** pattern.

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- TR 6-23.
- Discuss **perimeter search** pattern and review the steps.
- Explain to participants that they will be practicing two of the patterns later in the lesson.

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### Victim Management

- Instruct participants to close their workbooks for a moment.
- TR 6-24.
- Have participants engage in a discussion to produce on their own the **precautions** and the **steps for initial contact.**
- Discuss **precautions** during a search.
- Discuss **steps for initial contact** with a victim.
- Ask participants to open their workbooks and complete the blank spaces.



• Complete **steps for initial contact** with a victim.

### Improvised Search Equipment

- This topic will depend in great part on your motivation and creativity as CSSR instructor.
- Ask participants to suggest new ideas and help them devise new methods for improvised search equipment.
- Take notes of the participants' ideas to introduce into lesson materials.



#### Search Data Form

- Instruct participants to open their workbooks to the Collapsed Search Data Form on page WB 6-19.
- Explain each of the items of information requested in the form.
- Explain that this form is a general format to be used as a guideline and that each country may adapt it as needed for their local requirements.
- Emphasise that though often data collection is tedious and time-consuming, it is the only way to ensure an effective and successful search and rescue.



### Relatives, Neighbours... Form

- Explain data collection form for relatives, etc. and building personnel.
- Point out that data collection is not only carried out by the squad leader, but all squad members as well.



#### Victim Identification Form

- Point out that the "rescued" portion of the form denotes live victims.
- It is extremely important to take careful note of the date, day, time, and place of the rescue or body recovery.
- The form can be adapted to have rescues separately on one sheet and body recoveries on another.



#### Structure Information Form

- Point out that potential and confirmed dangers referred to in the form are those that may have an impact on the search and rescue operation.
- Remind them that attached to this form should be the site sketch, structural diagrams, photos, blueprints and other available documentation on the work site
- All the above forms and documents will form part of the After-Action Report.

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#### Review

- Lesson objectives and other main points.
- Ensure that lesson objectives have been met.

### Evaluation

- Remind participants to study the RM in preparation for Post-Test.
- Ask participants to complete Lesson Evaluation Form. Allow several minutes and collect.

#### **Practical Exercise**

• See Exercise Guide 6.

### Closing

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• Thank class for their participation and announce the coming lesson.

| 20-Mar-2002 | Search and Location Techniques |
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